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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,731	06/26/2003	Kourosh Soroushian	02-6421 1496.00304	5840
22501 7590 10/01/2008 CHRISTOPHER P MAIORANA, PC LSI Corporation 24840 HARPER SUITE 100 ST CLAIR SHORES, MI 48080				
EXAMINER HUBER, JEREMIAH C				
ART UNIT 2621		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/606,731

Applicant(s)

SOROUSHIAN, KOUROSH

Examiner

JEREMIAH C. HUBER

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 12 recites first and second buffers, as well as copying frame header information into the buffers. These limitations have been incorporated into corresponding independent claim 11 by the amendment dated 6/24/2008.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gryskiewicz et al (6392712, hereafter Gry) in view of Boyce et al (5592299) and in further view of Kim et al (5926573).

In regard to claim 1 Gry discloses a method and apparatus for processing a bitstream including:

receiving a first bitstream comprised of encoded frames (Gry Fig. 1 102, 104, 120 col. 1 lines 21-22), generating first and second field pictures in response to the input bitstream and (Gry col. 3 lines 18-38), and generating a second bitstream including the first and second field pictures (Gry Fig. 2 note to transmitter 106 and col. 3 lines 38-44); and

first and second field buffers (Gry fig. 1 note 125a-b). Boyce further discloses selecting alternate macroblock rows to generate a field (Boyce Fig. 3 and col. 8 lines 1-35).

It is noted that Gry does not disclose details of alternating macroblock rows. However, Boyce discloses a method and apparatus for processing a bitstream (Boyce Figs. 1E, 2 and col. 1 line 46 col. 2 line 50) including:

receiving a first bitstream comprised of encoded frame pictures, including intra coded frames, with alternating macroblock rows, with each row containing a plurality of vertical lines from a single respective field (Boyce Figs. 1E and 2 and col. 2 lines 41-50 and col. 5 lines 37-49 note field DCT coded macroblock in Fig. 1E, also note MPEG digital video inherently includes intra coded frames, and frame headers);

generating first and second field pictures in response to the bitstream (Boyce Figs. 2 and 3 and col. 7 lines 5-15, note first and second fields are generated in response to received bitstream), wherein the first field picture comprises macroblock rows containing the data for the plurality of vertical lines from a first field of the frame picture (Boyce Fig. 3 note field picture is composed of alternating macroblock rows of the frame picture)

generating a second bitstream including the first and second field pictures such that the second bitstream is decodable as interlaced field pictures using an MPEG-2 compliant decoder (Boyce col. 6 lines 61-63 note output is MPEG compliant pairs of field pictures further note MPEG output is inherently encoded).

Boyce further discloses the ability to generate either upper or lower (odd or even) fields (Boyce Fig. 3A&B) and generating picture and slice headers to maintain MPEG compliance (Boyce col. 11 line 56 to col. 12 line 7 note MPEG compliance requires an indication of top or bottom field in a field header).

It is further noted that neither Gry nor Boyce discloses copying and modifying header information. However Kim discloses a an MPEG format conversion method in which various headers are modified and copied into new bitstreams (Kim Fig. 1 and col. 5 line 44 to col. 6 line 63).

Therefore, it was well known in the art at the time of the invention to generate first and second fields containing video data from frames as disclosed by Gry. It was also well known in the art at the time of the invention to generate single encoded fields in response to encoded frames where each field is comprised of macroblock rows containing data of the original frame, and output a second bitstream comprised of field pictures that is decodable using an MPEG-2 compliant decoder as disclosed by Boyce. It was further well known to copy and modify various headers into new bitstreams during format conversion as disclosed by Kim. The examiner does not believe that one of ordinary skill in the art would have had any difficulty in combining the generation of two fields as taught by Gry with the compressed frame to field conversion method of Boyce

and copying and modification of headers as taught by Kim. Therefore the applicant's invention merely represents a combination of prior art elements according to known methods to achieve predictable results. In such a combination both inventions would perform as they did separately. Namely, the method Boyce would continue to operate to generate fields from frames, the method of Gry would continue to generate two data fields in response to input frames, and the method of Kim would continue to copy and modify header data during format conversion. One of ordinary skill in the art would further have found such results to be predictable because generating two data fields in response to frames was well known as taught by Gry. Boyce teaches a method of generating a single data field from a frame. Kim teaches header copying and modification during format conversion. Therefore the result of generating two fields from a frame using the method of Boyce, and deriving the headers of those fields via copying and modification as taught by Kim would have been predictable.

Boyce further discloses the ability to operate on intra coded images in the MPEG format (Boyce col. 5 lines 38-49 and col. 6 lines 27-37;). It is noted that neither Gry nor Boyce explicitly disclose operation relating to an intra-only bitstream. However, such a bitstream is inherent to the MPEG standard as disclosed by the applicant's prior art (Spec. p. 3 lines 9-20 note bitstream can be formed solely of intra pictures).

In regard to claims 2-3 refer to the statements made in the rejection of claim 1 above. Gry further discloses first and second field buffers (Gry fig. 1 note 125a-b). Boyce further discloses selecting alternate macroblock rows to generate a field (Boyce Fig. 3 and col. 8 lines 1-35). Boyce further discloses generating picture and slice

headers to maintain MPEG compliance (Boyce col. 11 line 56 to col. 12 line 7 note MPEG compliance requires an indication of top or bottom field in a field header). It is further noted that neither Gry nor Boyce discloses copying and modifying header information. However Kim discloses a an MPEG format conversion method in which various headers are modified and copied into new bitstreams (Kim Fig. 1 and col. 5 line 44 to col. 6 line 63). It is therefore considered obvious to include header copying and modification as taught by Kim in the invention of Gry and Boyce in order to speed processing.

In regard to claim 4 refer to the statements made in the rejection of claims 2-3 above. Boyce further discloses adjusting slice numbers (Boyce col. 11 lines 60 to 67 note correct slice_vertical_position values).

In regard to claim 5-6 refer to the statements made in the rejection of claim 1 above. Gry further discloses writing first and second fields consecutively into a second bitstream (Gry Fig. 2 note odd and even fields).

In regard to claims 7-8 refer to the statements made in the rejection of claim 1 above. Boyce further discloses storing a field based MPEG encoded bitstream in order to perform trick play (col. 12 lines 21-38). It is therefore inherent that the recorded bitstream of Boyce is provided to a decoder configured to support a field picture in order to perform trick play.

In regard to claim 9 refer to the statements made in the rejection of claim 7 above. Gry further discloses presenting field lines on a display in response to an input bitstream (Gry col. 9 lines 11-17), and further that the display can be a television (Gry

col. 4 lines 1-3). Kim further discloses that decoding encoded bitstreams for display was well known in the art at the time of the invention (Kim generally col. 1 line 32 to col. 2 line 62).

In regard to claims 10-20 refer to the statements made in the rejection of claims 1-9 above.

In regard to claims 21-22 refer to the statements made in the rejection of claim 16 above. Kim further discloses writing a sequence header from a first bit stream into a second bitstream, and further discloses modifying portions of the sequence header prior to writing (Kim fig. 1 and col. 5 line 44 to col. 6 line 63 particularly col. 6 lines 12-29).

Response to Arguments

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

The applicant asserts that Gry in view of Boyce does not disclose header processing as recited in amended claims 1, 10 and 11. The rejection is now based on Gry in view of Boyce and in further view of Kim.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMIAH C. HUBER whose telephone number is (571)272-5248. The examiner can normally be reached on Mon-Fri 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeremiah C Huber
Examiner
Art Unit 2621

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